REMARKS

This paper is submitted in response to the final Office Action dated April 30, 2008, and is accompanied by a petition for a three-month extension of time. The extension fee has been paid by credit card.

By way of this paper, claims 1-16 are merely amended to remove reference numerals, thereby conforming with preferred U.S. format.

AMENDMENT PROPER FOR ENTRY

The accompanying amendments are proper under 37 C.F.R. §1.116 practice and should be entered because they do not present new issues requiring further search or consideration. Rather, as mentioned, the amendments merely place the claims in conformity with preferred U.S. format. The amendments do not change the scope of the claimed subject matter.

INFORMATION DISCLOSURE

Submitted herewith as **Exhibit A** is a machine translation of Grillait et al. (FR 2,576,003), which was obtained from http://babelfish.yahoo.com. The original French-language text of Grillait was obtained from esp@cenet. Applicants rely on this translation in formulating the below remarks/arguments.

CLAIM REJECTIONS UNDER 35 U.S.C. §102 AND §103

Claims 6, 9-11, and 13 stand rejected under 35 U.S.C. §102(b) as anticipated by Grillait et al. (FR 2,576,003). Additionally, claims 1-5, 7, 8, and 14-16 stand rejected under 35 U.S.C. §103(a) as obvious over Grillait; and claim 12 stands rejected under 35 U.S.C. §103(a) as obvious over Grillait in view of Humele (U.S. Patent No. 6,520,318).

Applicants respectfully traverse these rejections.

The claims of the present application are directed to a device (claims 6-16) and a process (claims 1-5) for maintaining containers on a rotating conveyor 2 continuously, from the time they are loaded via an intake station 5 until they are discharged via a discharge station 10. More specifically, the containers are carried in the same location on the conveyor 2 from the intake station 5, to the discharge station 10, back to the intake station 5, and

finally, to the discharge station 10 to be discharged. An advantage of this arrangement is that it enables continuous operation of the system. That is, when the containers reach a second cycle, they do not obstruct the supply of new containers because they are continuously carried by the carousel 2 and not transferred back to the intake station. This is not the case with the apparatus of Grillait. In Grillait, as described below, the multi-cycling containers block the infeed starwheel 4, which requires the conveyor 10 to be repeatedly started and stopped. This causes an increase in energy consumption and system wear. Therefore, Grillait neither teaches a device or process, as recited in the claims of the present application, nor is there a suggestion to render such a device or process obvious in view of Grillait.

Grillait discloses a system and method for performing a sequence of treatment operations on objects, e.g., bottles, using an infeed starwheel 4, a carousel 5, a discharge starwheel 6, and a transfer starwheel 7. At any given time, the specific position of each object on the carousel 5 dictates which of the treatment operations is performed thereon.

For example, Grillait describes a system that includes three different treatment operations to be performed on each object. *See*, generally, page 2, line 34 to page 3, line 14 of **Exhibit A**. To undergo a first treatment operation, each object is first conveyed on a conveyor belt 10 to an "a" cell on the infeed starwheel 4. From the "a" cell on the infeed starwheel 4, the object is passed into a corresponding "a" cell on the carousel 5. From there, the object is passed into an "a" cell on the discharge starwheel 6. Rotation of the discharge starwheel 6 then passes the object to an "a" cell on the transfer starwheel 7. The transfer starwheel 7 then transfers the object back to the infeed starwheel 4. However, instead of passing the object back to the same "a" cell on the infeed starwheel 4, the object is passed to a "b" cell, which is one position offset from the previously occupied "a" cell. This can be seen in Fig. 1 of Grillait. From the "b" cell on the infeed starwheel 4, the object is passed to corresponding "b" cells on the carousel 5, the discharge starwheel 6, and the transfer starwheel 7. While the object occupies the "b" cells, it undergoes a second treatment operation that is different from the first treatment operation undergone while occupying the "a" cells. From cell "b" on the transfer starwheel 7, the object is passed to an "n" cell on the infeed starwheel 4, and then to corresponding "n" cells located on the carousel 5 and the discharge starwheel 6. The "n" cells are one position offset from the "b" cells. While

occupying the "n" cells, the object undergoes a third treatment operation that is different from the first and second treatment operations. During the third treatment operation, the object is only passed so far as the "n" cell of the discharge starwheel 6, from where it is passed to a discharge conveyor 8 to be transferred out of the system.

Therefore, Grillait teaches a single system for performing multiple, e.g., three, treatment operations on an object, wherein the object undergoes a distinct operation each time it is passed through the system. Grillait makes this possible by associating the different treatment operations with distinct positions on the carousel 5, i.e., the "a", the "b", and the "c" positions. Proper positioning of the objects in the respective cells is accomplished by the particular arrangement and operation of the infeed starwheel 4, the discharge starwheel 6, and the transfer starwheel 7, relative to the carousel 5.

A completely different objective is pursued with the present application. First, the present application is not aimed at any device or process for performing several different operations on an object by means of a single apparatus, as is the case of Grilliat. Rather, the present application is directed to device and process capable of allowing for the necessary waiting times in the handling of the objects in the system. *See*, paragraph [0003] of the application, for example. This is accomplished by the process of claim 1 and the device of claim 6.

Process Claims 1-5

Independent claim 1 recites a process that comprises "containers (4)...[being] conveyed by ***[a] rotating conveyor*** (2) first to a discharge station (10) and again to the intake station (5)..." Thus, the containers are fed to the intake station 5, which transfers the containers to the rotating conveyor 2. Once on the conveyor 2, the containers are directed *past* the discharge station 10, past the intake station 5, and are removed *no sooner than upon a second reaching of the discharge station 10*. Thus, the process of claim 1 defines the containers as remaining in the same position on a single conveyor 2, *without interruption*, during at least one cycle of movement from the intake station, to the discharge station, and again to the intake station.

While the final Office Action asserts that independent claim 1 is obvious over Grillait, the examiner does not explain where Grillait discloses containers being conveyed by a single rotating conveyor first to a discharge station and again to an intake station, as recited in claim 1, or how such features would be obvious in view of Grillait. No explanation is provided, because no explanation exists.

Rather, as described above, Grillait discloses a carousel 5 that conveys the containers from an intake station 4 to a discharge starwheel 6, but then a distinct and separate mechanism, i.e., the transfer starwheel 7, conveys the containers from the discharge starwheel 6 again to the intake starwheel 4. As such, Grillait does not disclose containers being conveyed by a single rotating conveyor first to a discharge station and *again* to the intake station, as recited in claim 1.

Moreover, it would not be obvious to modify Grillait to arrive at the claimed invention. Specifically, as mentioned, Grillait is focused on performing a sequence of treatment operations on individual objects with a single apparatus. In order to switch from one treatment operation to another, Grillait discloses a system that moves the objects to different positions on the carousel 5. This is achieved by removing the objects from the carousel 5 with the transfer starwheel 7, and then subsequently repositioning them on the carousel 5 in a different position. Thus, modifying Grillait such that the carousel 5 continuously carries each object "first to a discharge station and again to the intake station...," as recited in claim 1, would substantially change the principle of operation of Grillait because the position of the object on the conveyor would inherently remain unchanged. Grillait is able to perform multiple operations with a single apparatus because the objects are moved to different positions on the main carousel 5, wherein the different positions are associated with different treatment operations. Eliminating the ability to move the objects would destroy the intended functionality of the system. That is, if the containers on the apparatus of Grillait remained without interruption on the rotating carousel 5, and if they did not change position, then an essential characteristic of the system of Grillait, i.e., performing different operations based on different positions on the carousel, would be lacking. Hence, it would be incomprehensible for a person having ordinary skill in the art to modify Grillait to arrive at the invention recited in claims 1-5.

In light of the foregoing, Applicants respectfully request reconsideration and withdrawal of the obviousness rejections of claims 1-5.

Device Claims 6-16

Independent claim 6 recites a device that comprises a rotating conveyor 2, wherein *a section 16 of the rotating conveyor 2 is designed as a multiple through-passage section* in the direction of transport A between an intake station 5 and a discharge station 10. A person having ordinary skill in the art would understand that "a multiple through-passage section," as recited in claim 6, defines *a section of the rotating conveyor* where objects pass through multiple times during normal operation.

While Grillait can be interpreted as disclosing a multiple through-passage section located between the discharge and intake starwheels 6, 4, this section is designed as part of the transfer starwheel 7 and *not* part of the carousel 5. The transfer starwheel 7 is a structural component distinct from the main carousel 5. Thus, Grillait cannot anticipate claims 6, 9-11, and 13.

Moreover, none of claims 6-16 can be obvious in view of Grillait because there is no suggestion to modify the system disclosed therein such that the carousel 5, instead of the transfer starwheel 7, includes a section designed as a multiple through-passage section. Rather, as previously explained, Grillait explicitly relies on the discharge and transfer starwheels 6, 7 to remove the objects from the carousel 5 such that the objects can be repositioned at different locations thereon to undergo different treatment operations. Any modification of Grillait to arrive at the claimed invention would eliminate this ability to change the position of the objects on the carousel 5, thereby changing its principle of operation, which is improper when formulating an obviousness rejection.

Therefore, Applicants respectfully request reconsideration and withdrawal of the anticipation and obviousness rejections of claims 6-16.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Therefore, the examiner is respectfully requested to pass this application to issue. If there are any outstanding issues that the examiner believes may be remedied via telephone conference, please feel free to contact the undersigned at (312) 474-6300.

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Respectfully submitted,

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EXHIBIT A

Method and installation for continuously performing has plurality off operations one articles in has individual station treatment

Description off **FR2576003**

Translate this text

The present invention relates to a process and an installation to carry out uninterrupted on objects a plurality of operations in only one station of treatment.

In the present invention, one moves objects uninterrupted between a station of entry and a station of exit, while passing by only one station of treatment where the aforementioned objects undergo a succession of operations.

One knows in the former art of the installations to carry out uninterrupted a succession of operations on objects but they comprise several stations of treatment.

Such installations include/understand for example a conveyor of entry bringing the objects to stars equipped with cells which feed various stations of treatment, which return the objects after treatment on a conveying belt, in direction of the station of exit.

These installations give satisfaction but present the disadvantage of involving an important investment and an obstruction because of multiplicity of the stations of treatment.

The present invention cures this disadvantage by proposing a compact installation, requiring a minimal investment owing to the fact that all the successive operations are implemented in only one station of treatment.

According to an advantageous characteristic of this invention, one realizes in same and single turret of revolving machine, two, three ouopérations on the same object, while making make with this O T two, three or several turns around this mêmetou- relle, while shifting the position of this object for subject-to each turn with a different treatment.

According to another advantageous characteristic of this invention to realize on objects two, three or several operations, one interposes between a star of entry, a turret of treatment and a second star downstream from the turret of treatment, a star of transfer which ensures the passage of the objects in the turret of treatment, which is single until the sequence of operations necessary is completed.

The present invention thus has as an aim a process to treat objects uninterrupted between a station of entry and a station of exit, while passing by at least a station of treatment, where the aforementioned objects undergo a succession of operations, which is characterized in that, in the station of entry, one makes arrive uninterrupted the objects on a star of rotary entry, equipped with cells, in which one places one by one and respectively the objects to be treated, the number of cells being equal or multiple number of later operations necessary to the treatment of an object, in cequ1cn makes turn star of entry and thus makes pass each object of an cell of star of entry in an cell corresponding of a single turret of treatment turning in synchronism with star of entry but in opposite direction of the latter, the turret and star of entry being geometrically tangent, the number of cells of the turret being also equal or multiple of the number of operations to be carried out, in what one makes pass each object of an cell of the turret after a treatment in the aforementioned turret in an cell corresponding of a second star located downstream, also geometrically tangent at the turret and turning in opposite direction of this turret, the aforementioned second star having a number of cells equal or multiple of the number operations to be carried out, in what one makes pass each object of the aforesaid second star in an cell corresponding of a loading and unloading post to cells of the star type of transfer, located in the vicinity of the aforesaid two stars and turret, in what one introduces starting from the known as cell of the aforesaid star of transfer the object into a second cell of star of entry different from the first cell of the aforesaid star then into a second cell different from the turret, the cycle above being repeated until the object was submitted to sondernier treatment on the turret, after which the object is directed on second star downstream in an cell which cooperates with the last cell star of transfer to ensure the routing of the object treated towards the station of exit.

The present one, invention also has as an aim an installation in which a conveyor conveys uninterrupted

objects which must receive a plurality of treatments after being selected by a means of selection, which is characterized in that it includes/understands in combination a first star of rotary entry equipped with cells of number equal or multiple of the number of operations to carry out, in which the objects are introduced to pass in the corresponding cells of a single turret of treatment turning in synchronism with star of entry but in opposite direction, the turret and star of entry being geometrically tangent, the number of cells of the turret being also equal or multiple of many operations to be carried out, a second star located downstream from the turret, geometrically tangent with the aforementioned turret and turning in opposite direction of the latter, the aforementioned second star having a number of cells equal or multiple of the number of operations to carry out and, interposed between the aforementioned two stars and the turret of treatment, a star of transfer which transfers the objects having undergone at least a treatment from second star located downstream, with star of entry, the aforementioned star of transfer having also a number of cells equal or multiple of the number of operation to carry out.

The present invention also relates to the characteristics considered hereafter, separately or according to all their technically possible combinations
- the second star downstream and the star of transfer have each one a last cell corresponding in which a means of ejection is placed, likely to be actuated after completion of the cycle of treatment;
- the means of ejection is a rubber membrane which crosses an cell;
- the branches of the last cell of star downstream and star of transfer have a form different from the branches of the other cells, in order to allow the ejection of the objects on the conveying belt forwarding them to the station of exit;
- the star of entry, the turret of treatment, the star downstream etétoile of transfer comprise at least three cells; ;
- the turret of treatment and the star of transfer turn in the same direction and in direction opposed to that of two stars of entry and downstream;
- synchronous rotation between star of entry, the turret of treatment, star downstream and star of transfer is carried out continuously or semi-continuous;.

- the objects are bottles or bottles having to be subjected to a succession of operation on the turret;
- the objects are cartridges or any other object requiring several successive operations.

Other advantages and characteristic of this invention will arise from description detailed hereafter, made compared to the annexed drawings on which:
- Fig.I is a sight of top diagrammatic of a mode of realization of an installation, according to the present invention;
- Fig. 2 is an increased sight, partial of certain elements illustrated on figure 1.

With the annexed drawings where the similar parts carry the same symbols of reference, the objects to be treated are conveyed at a station of entry 1 by a conveyor 10 and are selected by a device 11, for example a screw. They are introduced into star of entry 4 equipped with a certain number of cells. From star 4, they are directed in a station of treatment 3, in the shape of a turret 5 equipped also with a certain number of cells. From turret 5, the objects are directed in a star located downstream 6. They are then taken again by a star of transfer 7 then conveyed again to star of entry 4. After a certain number of predetermined revolutions, the objects are then conveyed via star of downstream 6 and of star of transfer 7 towards the station of exit 2, while passing on the conveying belt of exit 8.L' star of entry 4, turret 5 supporting the elements making it possible to carry out the various operations on the objects to be treated, the étoiled' downstream 6 and the star of transfer 7 comprise cells of number equal or multiple with the number of operations to be carried out.

The example describes in connection with the drawings, relates to an installation making it possible to carry out three successive operations different from/to each other. It is of course that the installation according to the present invention is likely to make it possible to carry out an unspecified number of operations and that the number of illustrated stations constitute simply an illustrative example.

One now will explain in a more detailed way the way in which one proceeds for the implementation of this invention.

The objects which are brought by conveyor 10 and ravel left towards the line are selected by the screw L in such way that an object penetrates with each rotation of star of entry 4 in its own cell A. the star of entry 4 which is involved in synchronism with the turret of treatment 5, delivers its object in the corresponding cell has turret 5.

After a rotation of turret 5, the star of downstream 6 which is also involved in synchronism with turret 5 takes again the object of the cell has turret 5, in its cell A. After a light rotation of star of downstream 6, the object is transferred in the cell has star of transfer 7. The star of transfer 7 is also in synchronous rotation with all the other bodies and after a rotation of the aforesaid star of transfer 7, the object leaves its cell has to return in the cell B of star of entry 4, in order to pass then in the cell B of the turret of treatment 5 where there still can be carried out an operation different from that which was carried out previously when the object was in the cell has turret 5.

After a new rotation of the turret of treatment 5, the object is included in the cell B of star of downstream 6 then transferred in the cell B from star from transfer 7 then dansalvéole N from star from entry 4, and in - cell N of the turret of treatment 5 where a third operation different from the two first is carried out. At the end of its third turn on the installation, the object which is - dans11 cell N of the turret of treatment 5 is transférédans L the star of downstream 6, more particularly in cell N of the aforesaid the star which directs it thanks to a retractable guide and to the co-operation del' cell N of star of transfer 7 towards the station of exit 2 of the installation, while passing on the conveying belt 8.

To allow the object to leave the cycle indicated above and to be transferred towards the conveying belt 8, one envisages according to the present invention two possible embodiments. In a first embodiment, retractable guides 12, in the shape of a rubber belting crossing cell N as well of star of downstream 6 as of star of transfer 7, ensure the passage in direction of the conveying belt 8. According to a second mode of realization so much cell N of - the star of downstream 6 that cell N of star of transfer 7 present branches 13 which are of a form different from that of the other branches 14 which delimit the cells has, B of this star of downstream 6 and this star of transfer 7. These two means can be used separately or, as that is represented with the drawing of the fig. 2, in combination.

It is seen that avecl' installation according to the present invention one can carry out on a machine equipped with only one turret of treatment 5 two, three or several different operations on the same object, the intermediate star 7 and stars of entry 4 and downstream 6 having a number of cells equal or multiple of the number of operations to carry out. Of course, one could envisage a system of needles which would allow the ejection of the objects at the end of the cycle above, to replace the rubber 12 bits.

The installation according to the present invention can be used in an installation intended for the congestion. As example, the first series of operations makes it possible to fill a bottle with a first product, the second operation consists in supplementing the filling with a second product and the third operation is the stopping of the bottle.

However such an installation could also be used in manufacture as cartridges. In the first series of operations, one could for example introduce powder, into the second cycle of operations one could introduce of flock and into the third operation, to introduce leads.

Of course, in the case of multiple operations, it is advisable to have the number of cells corresponding to the number of operations to realize, but as one clearly showed, this number must be equal or multiple number of operations to carry out.

The invention allows a considerable space saver compared to former art thanks to an installation which is of a remarkable simplicity and only one reduced investment requires.

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